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COUNTRY ANALYSIS BRIEFS

Angola

Last Updated: January 2006

Background

Angola's oil sector accounts for over 40 percent of the country's gross domestic product (GDP).

Angola's economy has grown rapidly over the last few years, which is attributed to the ongoing oil boom in the sub-Saharan African country. Approximately 90 percent of Angola's government revenues come from the sale of oil, while earnings from diamond exports make up around seven percent. In 2005, Angola's real gross domestic product (GDP) growth rate was 14.4 percent, and the forecast GDP growth rate for 2006 is 14.6 percent. Although economic growth is strong, Angola remains one of the poorest countries on the African continent. Agriculture sustains two-thirds of Angola's population, who continue to live on $1 per day.

The Angolan government has sought international aid in efforts to rebuild the country's infrastructure, which was damaged in 27 years of civil war. As part of this effort, the Angolan Government and the International Monetary Fund (IMF) were engaged in dialogue over a future lending program in 2005. The IMF has asked that Angola disclose information pertaining to foreign debt, provide timely macroeconomic statistics, have a single government account at the Central Bank and increase dialogue on oil revenue management. Meanwhile, the World Bank has approved two investment projects; (1) a credit facility of $24.9 million for post-conflict and rehabilitation program, and (2) a grant worth $25.8 million.

In 1980, Angola, in collaboration with eight African nations, founded the Southern African Development Community (SADC). At its core, SADC is working to create peace and security while promoting development and economic growth in southern Africa. In addition to SADC, Angola is a member of the Common Market for Eastern and Southern Africa (COMESA), a 20-member organization working to liberalize trade and promote regional integration. Angola is also a member of the African Union (AU), which works towards sustainable development.

Oil

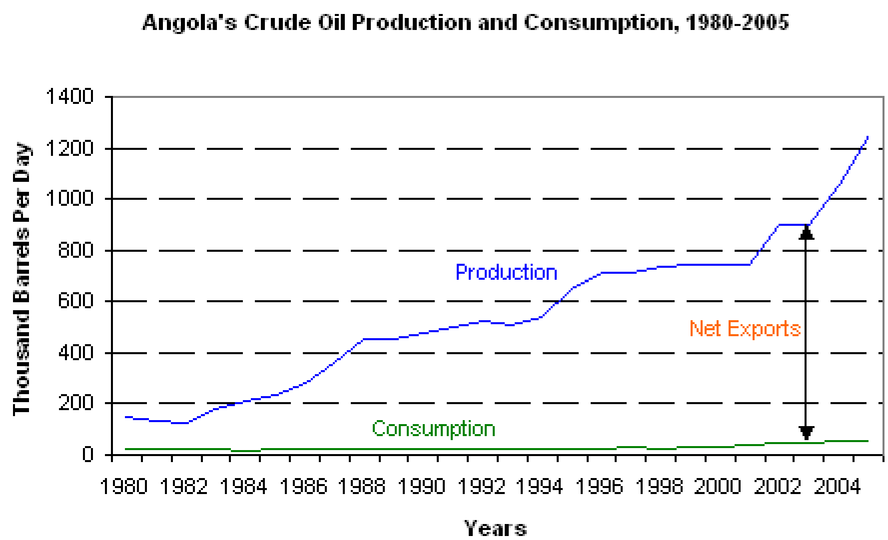
Angola is the second largest oil producer in sub-Saharan Africa

Proven oil reserves in Angola have tripled in the last seven years. According to the *Oil and Gas Journal* (*OGJ*), Angola had proven oil reserves of 5.4 billion barrels as of January 2006. The

behind Nigeria.

majority of the reserves are located in Angola's offshore blocks. The most prolific offshore blocks have been Blocks 15 and Zero. Proven reserves are also located onshore near the city of Soyo. The majority of Angolan oil is medium to light crude (30 degrees – 40 degrees API) with a low sulphur content (0.12 percent - 0.14 percent).

Angola is sub-Saharan Africa's second largest oil producer behind Nigeria. Angola's crude oil production has more than quadrupled over the past two decades. In 1986, crude oil production averaged 280,000 barrels per day (bbl/d), while production in 2005 averaged 1.25 million bbl/d. Oil production is predicted to reach two million bbl/d by 2008, when new deep-water production sites are expected to come online. Angola's oil consumption is relatively small. In 2005, Angolan oil consumption averaged 60,000 bbl/d. However, oil consumption is expected to increase as Angola's infrastructure is refurbished and expanded.



Exports

Angola's largest export partners in 2004 were the United States and China, which comprised 40 percent and 35 percent of total exports, respectively. In January 2004, the United States made Angola eligible for tariff preference under the African Growth and Opportunity Act (AGOA). Angola also exports crude oil to Europe and Latin America.

Sector Organization

Angola's national oil company, Sociedade Nacional de Combustiveis de Angola (Sonangol), was established in 1976 and made the sole concessionaire for exploration and production in 1978. Sonangol works with foreign companies through both joint ventures (JVs) and production sharing agreements (PSAs), funding its share of production through oil-backed borrowing. The top foreign oil companies operating in Angola are US-based ChevronTexaco and ExxonMobil, France's Total, UK's BP, UK /Dutch Shell, and Italy's Agip/Eni Oil Company.

Production

Block Zero

Oil production in Angola is concentrated in numerous onshore and offshore blocks. The offshore blocks are divided into three bands; (band A) shallow water blocks 0-13; (band B) deepwater blocks 14-30, and (band C) ultra-deepwater blocks 31-40. Block Zero, with areas A and B, is located offshore of the Cabinda province and accounts for approximately 370,000 bbl/d of Angola's oil production, or one-third of Angola's total crude oil production. Cabinda Gulf Oil Company (CABGOC), a ChevronTexaco subsidiary and the operator of the Block Zero fields since 1955, has a 39.2 percent share in the JV. In May 2004, Sonangol and the Angolan government extended CABGOC's contract, which was set to expire in 2010, to 2030. Other partners on Block Zero include Sonangol, Total and Agip/ENI. Block Zero's largest producing oil fields are Takula (Area A), Numbi (Area A), and Kokongo (Area B).

In 2005, production began in ChevronTexaco's Sanha field gas complex and Bomboco oil field, both of which are located in Block Zero. Production from the fields, which includes oil condensate and liquefied petroleum gas (LPG), is expected to peak at a combined total of 100,000 bbl/d in 2007. The Sanha gas-processing facility is the first to be built in Angola. The facility is predicted to reduce the flaring of gas in the region by 50 percent.

Block 14

In addition to Block Zero, CABGOC is the operator of deepwater Block 14. In January 2000, CABGOC announced full production (80,000 bbl/d) at its Kuito field. Production leveled to 61,000 bbl/d by 2001. CABGOC is currently developing six additional fields in Block 14, with four of the fields expected to come online in 2006. The fields are projected to reach a combined peak oil production of 300,000 bbl/d as early as 2008. In October 2004, ChevronTexaco announced that it would invest $7 billion to develop oil fields in Block 14 and to build a liquefied natural gas (LNG) plant off Angola's northern coast. The investment period, which began in the latter half of 2004, will continue through 2008. CABGOC's (31 percent interest) partners on Block 14 are Agip (20 percent), Sonangol (20 percent), Total (20 percent) and Portugal's Petrogal (9 percent).

Block 15

ExxonMobil is operator of Block 15, the largest producing deepwater block in Angola. Several fields have been discovered on block 15. The Xikomba field, with estimated recoverable reserves of 100 million barrels, began production in December 2003. Production from Xikomba is currently 80,000 bbl/d. In August 2004, the $3.4 billion Kizomba-A project came online. Kizomba-A, which includes the Chocalho and Hungo fields, utilizes a floating, production, storage and offloading system (FPSO). Kizomba-A is expected to have a peak production of 250,000 bbl/d. First oil from the Kizomba-B project came online in July 2005. Kizomba-B, which includes the Dikanza and Kissanje fields, contains an estimated one billion barrels of oil reserves. Production from Kizomba-B is expected to peak at 250,000 bbl/d. Operations on Kizomba-B are also conducted by an FPSO. The Kizomba-C project, which is currently under development, will encompass production form the Batuque, Mondo and Saxi fields. Production for Kizomba-C could begin as early as 2007. At peak production, Block 15 is expected to produce 750,000 bbl/d, and total recoverable hydrocarbon reserves are estimated at 4.5 billion barrels. Exxon Mobil's (40 percent interest) partners on Block 15 are: BP (27 percent), Agip (20 percent) and Norway's Statoil (13 percent).

Block 17

In December 2001, the Girassol oil field became Block 17's first production site. This was followed in December 2003 by Total's Jasmin field. Also in 2003, Total announced approval for development of Block 17's offshore Dalia field. Development of Dalia will include a FPSO with a 240,000 bbl/d processing capacity and a 2-million-barrel storage capacity. Dalia's reserves are estimated at 1 billion barrels, and the project is due onstream in late 2006 at a cost of $3.4 billion. Total operates on Block 17 with a 40 percent share, while Sonangol is its franchise holder. Other shareholders include ExxonMobil (20 percent), BP Exploration Limited (16.67 percent), Statoil Angola Block 17 AS (13.33 percent) and Norway's Norsk Hydro (10 percent).

Exploration

Success in offshore discoveries in Angola has led to increased interest in Angola's exploration blocks. On December 13, 2005 a new licensing round on seven blocks was opened. The blocks open to bid include: 1, 5 and 6 in the shallow-water (band A) zone and 15, 17, 18 and 26 in the deepwater zone (band B). To date, the most prolific oil producing blocks have been those in the deepwater zone.

Block 16

In September 2002, Canadian Natural Resources (CNR) signed a four-year PSA with Sonangol to explore for oil in the deep waters of Block 16, 72 miles off the Angolan coast. In December 2003, CNR announced that its Zenza-1 well encountered shows of hydrocarbons, but they were not of sufficient amounts to be commercial. In early 2005, CNR sold its stake in Block 16 to Denmark's Maersk Oil, which is joined with partners Sonangol (20 percent), Devon Energy (15 percent) and Brazil's Odebrecht (15 percent). To date, no significant oil reserves have been located in Block 16.

Block 17

In addition to the Girassol and Jasmin finds, several other significant discoveries have been made on deepwater Block 17. In the eastern section of the block, Total's Acacia find tested at a combined 13,712 bbl/d of oil from two separate zones, and Hortensia tested at 5,092 bbl/d of oil.

In August 2004, Sonangol approved Total's request to award contracts to develop the Rosa Field on Block 17. Development will include the construction of 25 subsea wells tied back to the Girassol FPSO. Production at Rosa is expected to begin in early 2007 at an initial rate of 70,000 bbl/d. Proposed modifications to the FPSO are expected to increase production to 250,000 bbl/d. In October 2004, Italian firm Saipem SpA was awarded a $440 million contract to build a subsea pipeline connecting offshore Rosa with onshore facilities near Luanda.

Block 18

In February 2004, Sonangol approved BP's plans to develop the Greater Plutonio project in Block 18. Five fields (Colbalto, Cromio, Galio, Paladio, Platina, and Plutonio) will be developed using a single FPSO. Scheduled to come online in 2007, the Greater Plutonio project is expected to produce over 200,000 bbl/d. Total cost of the project is estimated at between $2 and $3 billion. In June 2004, FMC Technologies was awarded a $27 million contract for the provision of services at the Plutonio project. Three months later, BP announced an additional $80 million contract with FMC for the supply of subsea systems. Two additional discoveries on the block are BP's Chumbo-1 and Cesio-1 wells. BP maintains a 50 percent interest as the operator of Block 18 and Sinopec owns the other 50 percent share. Although India's ONGC Videsh signed an agreement with Shell to buy a 50 percent stake in Block 18 in April 2004, Sonangol refused to approve the purchase. Instead, Sonangol accepted a bid coupled with a $2 billion aid offer from China in October 2004.

Block 24

In February 2003, Devon Energy acquired a 25 percent stake in Block 24 from ExxonMobil. This acquisition increased Devon Energy's total share of the block to 40 percent, making the company the operator of the block. ExxonMobil retains a 20 percent share. Sonangol and Malaysia's Petronas are also partners on the block. ExxonMobil reported the first oil discovery on the block in June 2001, but later declared the Semba-1 well, which had a flow rate in excess of 3,000 bbl/d, to be noncommercial.

Block 31

In 2005, five new discoveries were made on Block 31, which brings the total of discovered wells on the block to nine. All nine wells have tested at significant flow rates, with the eighth well, Astraea-1, testing at the highest flow rate of 6,500 bbl/d. The block is located 118 miles off the Angolan coast. BP, as the operator of the block is still exploring development options. Other stakeholders in the block include ExxonMobil, Sonangol, Statoil, Marathon, and Total.

Block 32

Total's first exploration well on Block 32 was a success. Gindungo, which lies 40 miles from Block 17's Girassol find, tested at rates of 7,400 bbl/d and 5,700 bbl/d in two zones. In April 2004, Total announced a new Block 32 discovery, Canela-1, from which a test reservoir produced 6,800 bbl/d. Sonangol and Total announced an additional oil discovery at OECanela-1 in June 2004. The find produced a test flow of 6,800 barrels per day from a lone reservoir. Total, as operator of the block, is joined with partners Marathon Oil, Sonangol and ExxonMobil.

Refining and Downstream

The Fina Petroleos de Angola refinery in Luanda, a JV between Sonangol, Total and private investors, has a crude oil processing capacity of 39,000 bbl/d. The refinery produces almost all of Angola's domestic requirements of gasoline, kerosene and jet fuel, as well as a small amount of products for export.

Angola is developing plans for a new 200,000-bbl/d refinery in the coastal city of Lobito. A total of 50 percent of the products produced at the new refinery would be consumed domestically; the remaining 50 percent would be for export. Various firms have expressed interest in partnering with Sonangol in building the refinery, especially after Sonangol linked building the refinery to having upstream ownership in Blocks 15, 17 and 18. The refinery is expected to be operational by as early as 2009.

Since the cessation of armed hostilities in Angola, the domestic demand for oil products is rising. Sonangol estimates that Angolan demand for oil products will grow by 500 percent within 10-20 years. In early 2004, Sonangol imported oil from abroad to ease domestic shortages when the Luanda refinery was unable to meet increasing demand due to ongoing problems. In March 2004, Angola committed itself to ending fuel subsidies by the end of the year to encourage downstream investment.

Angola's retail sector, which once boasted over 450 filling stations, has shrunk to 100 outlets. Construction of 120 additional stations is planned over the next several years. Potential stumbling blocks to new construction include the more than $300 million expected cost and the lack of foreign investment from both Sonangol and foreign firms. In July 2004, Portugal's Galp Energia announced intentions to build several stations in Angola. Sonangol and Galp Energia currently provide product distribution and marketing in Angola.

Natural Gas

The majority of natural gas produced in Angola is flared.

According to the *Oil and Gas Journal* (*OGJ*), Angola has proven natural gas reserves of 1.6 trillion cubic feet (Tcf) as of January 2006. The majority (approximately 85 percent) of natural gas produced in Angola is flared; the remainder is re-injected to aid in oil recovery or processed in the production of liquefied petroleum gas (LPG). The Angolan government has plans to reduce natural gas flaring by ending flaring at fields north of the Congo River mouth in Cabinda. CABGOC has initiated two zero-flare fields, Nemba and Lomba, and plans to make Kuito the third. Future plans include converting flared gas to liquefied natural gas (LNG), natural gas liquids (NGLs), and LPG.

ChevronTexaco and Sonangol are developing a project to convert natural gas from several offshore oil fields to LNG for export. The facility will process flared gas from Blocks 1, 2, 3, 4, 15, 16, 17, and 18. The facility will have a capacity of 750 million cubic feet per day (Mmcf/d) and will be located near the city of Soyo, in northern Angola. The front-end engineering and design study (FEED) for the Angola LNG project should be completed in the latter half of 2006. Total cost for the LNG project is estimated at $5 billion and the LNG facility is not expected to come online before 2010. ChevronTexaco and Sonangol are the principle stakeholders in the LNG project, and they are joined with partners Norsk Hydro, BP, Total and ExxonMobil.

In October 2004, ChevronTexaco awarded a contract to Paragon Engineering Services to lessen natural gas flaring at its Tukula, Wamba, Numbi, and Malongo fields. Paragon plans to build several new gas processing platforms and modify existing platforms to recover gas that is currently flared.

Electricity

Electric power in Angola is available to only 15 percent of the population.

Angola's electricity generating capacity as of 2003 was 0.7 gigawatts. Electricity generation for the country during 2003 was 1.9 billion kilowatthours (Bkwh), while consumption was 1.8 Bkwh. Only 15 percent of Angola's population has access to electric power, and blackouts occur frequently even for those who do have access.

Three separate systems are used to supply electricity throughout Angola. The Northern System supplies the provinces of Luanda, Bengo, Kuanza-Norte, Malange and Kuanza-Sul. The Central System provides for the provinces of Benguela, Huambo and parts of Bie. The Southern System supplies to Huila and Namibe provinces. The government aims to link the systems there to create a national grid through the South Africa Power Pool (SAPP).

Hydroelectric facilities generate more than two-thirds of Angola's electricity. The Matala dam, which began operations in 2001 on the Cunene River, is the main source of electricity in southwest Angola. The Cambambe dam (180 MW) on the Kwanza River, the Mabubas dam (17.8 MW) on the Dande River, and diesel generators are the main sources of electricity in northern Angola. In northeastern Angola, a 24-MW dam is being built by the diamond company, Catoca, on the Tchicapa River.

Angola intends to restore the productive capacity of the Empresa Nacional de Electricidade (ENE), the state-owned electric utility, by rehabilitating its hydropower stations. Gove, a nonfunctioning station, is expected to be rebuilt following a February 2003 agreement with Namibia to jointly rehabilitate the dam. Construction of a new Cunene River dam at Epupa Falls has also been proposed.

Odebrecht, a Brazilian construction company, has partially completed the construction of a hydroelectric facility at Capanda on the Kwanza River. Work on the 520-MW plant began in the mid-1980s, but was suspended due to the civil war. The first of four planned hydraulic turbines began generating electricity (260 MW) in January 2004. Russian firm, Technopromexport, has begun installation of a second turbine to be operational in 2007. The completed Capanda project will nearly double Angola's electricity generating capacity.

Profile

Country Overview

Chief of State	President Jose Eduardo dos Santos (since September 21, 1979)
Location	Southern Africa, bordering the South Atlantic Ocean, between Namibia and Democratic Republic of the Congo
Independence	11 November 1975 (from Portugal)
Population (2005E)	11,190,786
Languages	Portuguese (official), Bantu and other African languages
Religion	indigenous beliefs 47%, Roman Catholic 38%, Protestant 15% (1998 est.)
Ethnic Group(s)	Ovimbundu 37%, Kimbundu 25%, Bakongo 13%, mestico (mixed European and native African) 2%, European 1%, other 22%

Economic Overview

Minister of Finance	José Pedro de Morais
Currency/Exchange Rate (1/10/06)	Kwanza (AOA) US$1 = 89.45 AOA
Inflation Rate (Consumer price index)	(2004E): 37%, (2005E): 23%
Gross Domestic Product	(2005E): $26 billion
Real GDP Growth Rate	(2004E): 12.2%, (2005E): 14.4%, (2006F): 14.6%
External Debt (2004E)	$10.45 billion
Exports (2005E)	$18,759 million
Exports - Commodities	crude oil, diamonds, refined petroleum products, gas, coffee, sisal, fish and fish products, timber, cotton
Exports - Partners (2004E)	US 39.8%, China 30.3%, Taiwan 8.1%, France 7.1%
Imports (2005E)	$8,205 million
Imports - Commodities	machinery and electrical equipment, vehicles and spare parts; medicines, food, textiles, military goods
Imports - Partners (2004E)	Portugal 18.4%, US 13.1%, South Africa 10.7%, Japan 6.9%, France 6.3%, Brazil 5.6%, UK 4.9%, China 4.5%
Current Account Balance (2005E)	$1,936 million

Energy Overview

Minister of Petroleum	Desidério da Graca Veríssimo da Costa
Proven Oil Reserves (January 1, 2006E)	5.4 billion barrels
Oil Production (2005E)	1,241.8 thousand barrels per day, of which 100% was crude oil.
Oil Consumption (2005E)	58 thousand barrels per day
Net Oil Exports (2005E)	1,183.8 thousand barrels per day
Crude Oil Refining Capacity (2005E)	39 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2006E)	1.6 trillion cubic feet
Natural Gas Production (2003E)	30 billion cubic feet
Natural Gas Consumption (2003E)	25.4 billion cubic feet
Electricity Installed Capacity (2003E)	0.7 gigawatts
Electricity Production	1.9 billion kilowatt hours

(2003E)	
Electricity Consumption (2003E)	1.8 billion kilowatt hours
Total Energy Consumption (2003E)	0.1 quadrillion Btus*, of which Oil (71%), Natural Gas (19%), Hydroelectricity (10%), Coal (0%), Nuclear (0%), Other Renewables (0%)
Total Per Capita Energy Consumption (2003E)	9.9 million Btus
Energy Intensity (2003E)	4,496.5 Btu per $2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2003E)	15.9 million metric tons, of which Natural Gas (58%), Oil (42%), Coal (0%)
Per-Capita, Energy-Related Carbon Dioxide Emissions (2003E)	1.2 metric tons
Carbon Dioxide Intensity (2003E)	0.5 Metric tons per thousand $2000-PPP**
Environmental Issues	overuse of pastures and subsequent soil erosion attributable to population pressures; desertification; deforestation of tropical rain forest, in response to both international demand for tropical timber and to domestic use as fuel, resulting in loss of biodiversity; soil erosion contributing to water pollution and siltation of rivers and dams; inadequate supplies of potable water
Major Environmental Agreements	party to: Biodiversity, Climate Change, Desertification, Law of the Sea, Ozone Layer Protection, Ship Pollution signed, but not ratified: none of the selected agreements

Oil and Gas Industry

Organization	State-owned Sociedede Nacional de Combustiveis de Angola (Sonangol) oversees offshore and onshore oil operations in Angola
Major Oil/Gas Ports	Luanda, Malango (Cabinda), Palanca, Quinfuquena
Foreign Company Involvement	Ajoco, BHP, BP, Canadian Natural Resources, ChevronTexaco, Devon, Daewoo, Engen, ENI-Agip, ExxonMobil, Falcon Oil, Fortum, Gulf Energy Resources, INA-Naftaplin, Lacula Oil, Maersk, Marathon Oil, Mitsubishi, Naftgas, Naphta-Israel, Norsk Hydro/Saga, Occidental, Ocean energy, Pedco, Petrobras, Petrogal, Petro-Inett, Petronas, Phillips, Prodev, Shell, Sinopec, Statoil, Teikoku, Total
Major Oil Fields	Takula (Block 0), Nemba (Block 0), Pacassa (Block 3), Cobo/Pambi (Block 3) Kissanje (Block 15), Dikanza (Block 15), Dalia (Block 17)
Major Refineries (capacity, bbl/d)	Fina Petroleos De Angola – Luanda

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

EIA - Country Information on Angola

U.S. Government

CIA World Factbook - Angola
Library of Congress Country Study on Angola - 1989
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U.S.-Angola Chamber of Commerce
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